

REMARKS

This application is amended in a manner believed to place it in condition for allowance at the time of the next Official Action. Claims 1-12 and 18-20 are cancelled.

Claims 21-35 are new, and these claims are the only claims pending in the present application. Claims 21-35 respectively correspond to previously pending claims 1-12 and 18-20.

Claims 1-12 and 18-20 are rejected under 35 USC 112, second paragraph, as not pointing out and distinctly claiming the invention.

The Official Action specifically notes that the terms "preferably", "selected among", and "colour" are not consistent with U.S. patent practice. Accordingly, claims 21-35 are drafted in a manner consistent with U.S. patent practice and are definite.

Therefore, withdrawal of the rejection is respectfully requested.

The Official Action rejects claims 1-12 and 18-20 as being anticipated under 35 USC 102(a) and (b), or in the alternative, as unpatentable under 35 USC 103(a) over GAUDRY et al. U.S. 7,029,527 (GAUDRY), NAKAGAWA et al. U.S. 4,082,561 (NAKAGAWA '561) or NAKAGAWA et al. U.S. 3,973,978 (NAKAGAWA '978), HARADA et al. U.S. 4,060,425 (HARADA), KELLET et al. U.S. 4,357,167 (KELLET), MATHIEU U.S. 4,983,220 (MATHIEU), DUBEY U.S.

6,641,658 (DUBEY), MIZUSHIMA EP 0769482 (MIZUSHIMA), AIKO JP 02145469 (AIKO), and WATANABE JP 05009049 (WATANABE). These rejections are respectfully traversed.

I. Anticipation Rejections Based on GAUDRY, KELLET, DUBEY, MIZUSHIMA and AIKO.

Each of these documents discloses compositions comprising quick setting cement. These documents do not disclose a setting accelerator in the form of an aqueous suspension for a composition comprising Portland cement.

The setting accelerator of the claimed invention is a ready-to-use setting accelerator, which as claimed, is in the form of an aqueous suspension. Accordingly, the setting accelerator does not set for a period of several weeks to several months. Thus, the setting accelerator is added to a composition comprising Portland cement when one wishes to accelerate the setting.

However, these documents do not disclose a setting accelerator in the form of aqueous suspension, as recited in independent claim 21, which is stable for periods of several weeks to several months. Instead, these documents disclose rapid setting compositions comprising Portland cement.

Furthermore, none of these documents discloses the use of acid boric and/or at least one boric acid salt as a setting inhibitor, as now recited in the independent claim.

Accordingly, these documents cannot disclose the effect of the use of a specific inhibitor in specific proportions on the stability of a setting accelerator in the form of an aqueous suspension comprising calcium aluminate.

Therefore, GAUDRY, KELLET, DUBEY, MIZUSHIMA and AIKO fail to disclose a setting accelerator for a composition comprising Portland cement comprising boric acid and/or at least one boric acid salt as a setting inhibitor as presently claimed.

II. Anticipation Rejections Based on NAKAGAWA '561 and NAKAGAWA '978

These documents disclose a quick-hardening agent for cement comprising calcium aluminate and inorganic sulphate and optionally a setting retarder such as citric acid (column 2, lines 31-39) and a quick-hardening accelerator. The quick-hardening agent can be in the form of a suspension (column 1, lines 49-50).

The quick-hardening agent is added to a cement composition notably Portland cement (column 2, line 52).

The retarders used in the examples are citric acid and sodium gluconate. The amounts of retarders range between 0.6 and 1% by weight based on the calcium aluminate weight.

These documents do not disclose the effect of the use of a specific inhibitor comprising boric acid in specific proportions on the stability of an accelerator comprising calcium aluminate in aqueous suspension.

Therefore, the NAKAGAWA documents fail to disclose a setting accelerator according to the invention as now claimed.

III. Anticipation Rejection Based on HARADA

HARADA discloses a super rapid hardening mixture comprising:

- a) a super rapid hardening cement,
- b) at least one short range strength accelerator selected from the group consisting of a calcium aluminate material, a lime material, an amine and an ethylene glycol material and calcium sulfate hemihydrate,
- c) at least one emulsion selected from the group consisting of a bituminous emulsion, a rubber latex and a resin emulsion; and
- d) water.

HARADA discloses the use of acid boric or citric acid as a set controlling agent (column 1, lines 61-65).

The super rapid hardening mixture disclosed in HARADA is intended to replace the traditionally used Portland cement by a specific quick-hardening cement comprising calcium haloaluminate. Compositions disclosed in this document are not intended to accelerate the setting of a composition comprising Portland cement.

Furthermore, none of the examples discloses the use of calcium aluminate and boric acid in the same composition.

HARADA does not disclose a setting accelerator in the form of an aqueous suspension for a composition comprising Portland cement but a super rapid hardening mixture.

Therefore, HARADA fails to disclose a setting accelerator according to the invention.

IV. Anticipation Rejection Based on MATHIEU

MATHIEU discloses a setting accelerator composition for Portland cement. This composition comprises calcium aluminate and trihydrated alumina based material, the composition being formed by vigorous joint grinding of the two constituents.

The setting accelerator in the form of a powder is then mixed with Portland cement (example 1).

MATHIEU does not disclose a setting accelerator for Portland cement in the form of an aqueous suspension.

Therefore, MATHIEU fails to disclose a setting accelerator according to the invention.

V. Anticipation Rejection Based on WATANABE

WATANABE discloses a cement admixture for mortar or concrete comprising:

1) one or more compounds selected in the group of magnesium carbonate, aluminium sulphate and/or calcium aluminates,

2) a thickening agent and/or a water reducing agent,
and

3) optionally one or more compounds selected from boric acid, bentonite and/or gypsum.

The simple reading of the abstract is not sufficient to determine if:

- the cement admixture composition described in WATANABE is in the form of an aqueous suspension,
- the specific selection of calcium aluminate cement and boric acid are used in the same composition, and
- the amount of boric acid by weight based on the total weight of the calcium aluminate falls into the claimed range.

Consequently, the disclosure of WATANABE is insufficient to anticipate the invention as defined in claim 21. Therefore, WATANABE fails to disclose a setting accelerator according to the invention.

VI. Obviousness Rejections

A. The invention defined in claim 21 provides a setting accelerator in the form of an aqueous suspension. The specific use of boric acid or boric acid salts in specific proportions provides a setting accelerator composition in the form of a suspension stable for several weeks to several months.

Table 1 clearly shows the advantageous properties of the accelerator of the invention. The compositions do not set for a period of 2 weeks to more than 24 weeks.

B. Among the cited documents, only the NAKAGAWA documents '561 and '978 disclose an accelerator in the form of an aqueous suspension for composition comprising Portland cement.

However, documents '561 and '978 do not disclose the use of boric acid as a setting inhibitor.

Document '561 specifies that the quick-hardening agent (or accelerator) does not set within 30 minutes. The examples disclose a maximum setting time of 3 hours 50 minutes for the quick-hardening agent.

C. None of GAUDRY, KELLET, MATHIEU, DUBEY, MIZUSHIMA, and AIKO discloses the use of acid boric as a set inhibitor. Consequently, the skilled person does not find in any of these documents indication which would have suggested choosing acid boric to solve this problem.

D. HARADA discloses a rapid hardening mixture and does not disclose an accelerator in the form of an aqueous suspension for a composition comprising Portland cement.

E. Consequently, most of the documents cited in the Official Action do not disclose:

- an accelerator in the form of an aqueous suspension comprising calcium aluminate cement,
- the specific use of boric acid as inhibitor and/or
- the specific proportions of boric acid.

None of the cited prior art documents, taken alone or in any combination, would motivate the skilled person to choose

the specific setting inhibitor of the invention in order to provide a liquid setting accelerator for a composition comprising Portland cement which does not set for a period of several weeks to several months.

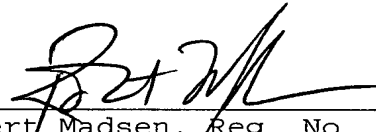
Therefore, in view of the above, none of the references cited in the Official Action anticipates or renders obvious the claimed invention, and withdrawal of the rejections is respectfully requested.

In view of the foregoing remarks, applicants believe that the present application is in condition for allowance at the time of the next Official Action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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